

REMARKS

Claims 1-9 and 20 were pending and rejected. Claims 1, 5, 6, 9 and 20 are being amended. Reconsideration is respectfully requested.

Applicant would like to thank the Examiner for the telephone interview on September 9, 2005, where we discussed the new matter rejection and claim 1.

In paragraph 2, the Examiner rejected claims 1, 9 and 20 under 35 USC § 112 as being amended to contain subject matter that was not described in the original specification. Specifically, the Examiner could not find support for the language “at least one subsequent remote copy operation.” During the telephone interview, the Examiner specifically indicated that he could not find support for the term “subsequent.”

Applicant directed the Examiner’s attention to page 15 lines 21-23 which state, “In other words, the method 200 uses a network with a higher throughput for the initial copy as compared to a normal remote copy procedure.” Further, Applicant directed the Examiner’s attention to page 17 lines 1-7 which states, “After the initial copies have been made, the administrator may re-configure (205) the network path. This re-configuration procedure may, for example, include reducing the number of paths in the network 105 and/or reducing the network path performance on contract with a network provider. After the paths in the network 105 is {sic} reduced, normal remote copy procedures may then be performed.”

Applicant mentioned that the term “initial” as in “initial copy” inherently includes the notion of subsequent copy operations. Otherwise, the copy operation could not be referred to as “initial.” Further, the reference to “a normal remote copy procedure” clearly refers to a single remote copy procedures occurring after, i.e., subsequent, the initial remote copy procedure. Still further, the language “After the paths in the network 105 is {sic} reduced, normal remote copy operations *may* then be performed” indicates that all remote copy operations subsequent to the initial remote copy operation need not occur with reduced data transmission. Further, based on the language “the method 200 uses a network with a higher throughput for the initial copy as

compared to a normal remote copy procedure,” one skilled in the art would understand that only one subsequent remote copy operation need occur with reduced throughput for the initial copy operation to have “higher throughput... as compared to a normal remote copy procedure.”

In response, the Examiner agreed that the 112 rejection should be withdrawn.

In paragraphs 3-12, the Examiner rejected claims 1-9 and 20 under 35 USC § 103 over Wahl in view of Yanai. Specifically, citing column 25 lines 1-10, the Examiner suggested that Wahl teaches increasing the data transmission speed. Citing column 16 lines 17-63, the Examiner suggested that Wahl further teaches “thereby reducing the speed of at least one subsequent remote copy operation between the first disk system and the second disk system.” On page 3, the Examiner stated that Wahl (mistakenly identified as Yanai) is silent on adjusting the network path to reduce the transmission speed across the network path, as recited in the claims. The Examiner then suggested that Yanai teaches reducing the transmission speed, and that combination with Wahl would be obvious “because this feature obsolete write pending data need not be transmitted over the link” [per Yanai, column 4 lines 13-24] and “in order to avoid of losing data when a sequence of data corresponding to the number of items registered at the queue are sent and received” [per Yanaka, column 2 lines 28-30].

Each of claims 1, 9 and 20 recites, similarly, “adjusting the network path to reduce the speed of data transmission across the network path, thereby reducing the speed of at least one subsequent remote copy operation between the first disk system and the second disk system.”

Wahl teaches a computer data remote mirroring system. Specifically, the language cited by the Examiner, column 25 lines 1-20, specifically teaches that bandwidth can be increased by optional network banding. However, as admitted by the Examiner, Wahl does not teach that data transmission speeds can be increased for an initial remote copy operation between two disk systems and then reduced for a subsequent remote copy operation between the two disk systems, as recited in amended claims 1, 9 and 20.

Yanai teaches a variety of remote data mirroring techniques. As specifically cited by the Examiner, column 3 line 31 to column 4 line 33, on a paragraph-by-paragraph basis, describes synchronous mode synchronization, semi-synchronous mode synchronization, adaptive copy modes of synchronization, recovery mode, cache processes, and options to avoid “rolling disaster.” The language cited by the Examiner is unrelated to increasing data transmission speeds for an initial remote copy operation between two disk systems and to reducing the transmission speeds for subsequent remote copy operations between the two disk systems after performing the initial remote copy operation, as recited in amended claims 1, 9 and 20.

Again, the claimed systems and methods refer to performing an initial copy operation at an increased speed of data transmission and then performing at least one subsequent remote copy operation at a reduced speed. Neither Wahl nor Yanai teaches changing the speed of data transmissions or, specifically, changing the speed of data transmission after an initial copy operation. Accordingly, Applicant respectfully submits that claims 1, 9 and 20 are patentable.

Even assuming arguendo that Yanai taught adjusting the transmission speed, the motivations to combine identified by the Examiner fail. First, the Examiner indicates column 4 lines 13-24 express a motivation to combine. The cited language deals with identifying obsolete data, which if obsolete, need not be synchronized. Identifying obsolete data which need not be synchronized has nothing to do with reducing the speed of data transmission for subsequent remote copy operations. Identifying obsolete data has only to do with the data itself, not the speed. This language provides no motivation to use higher transmission speeds for an initial remote copy operation and reduced transmission speeds for a subsequent remote copy operation.

Regarding the Examiner’s second motivation to combine, Applicant respectfully points out that the Yanaka reference is not cited in the 103 rejection. Accordingly, Applicant is unsure why the Examiner is citing Yanaka as argument for a motivation to combine Wahl and Yanai. Further, specific to the language of Yanaka cited by the Examiner, “avoid[ing] of {sic} losing data when a sequence of data corresponding to the number of items registered at the queue are sent and received” is unrelated to increasing transmission speed for an initial remote copy

operation and decreasing transmission speed for subsequent remote copy operations as claimed. For example, no company markets slower speeds in the interests of avoiding data collisions. Alternatively, companies market only faster speeds. Accordingly, Applicant respectfully submits that the quote from Yanaka is both improper, irrelevant, and does not provide any motivation to combine Wahl and Yanai.

Neither Wahl nor Yanai teaches increasing the transmission speed for an initial remote copy operation and then, after performing the initial remote copy operation, reducing for a subsequent remote copy operation between the two disk systems, as recited in amended claims 1, 9 or 20. Further, the two motivations to combine proffered by the Examiner fail for the reasons described above. Accordingly, Applicant respectfully submits that claims 1, 9 and 20 and claims 2-8 dependent therefrom are patentable over Wahl in view of Yanai.

During a teleconference on October 3, 2005, the Examiner indicated that he interpreted the claims as not requiring the steps be executed in any particular order. In other words, he indicated that configuring a network to perform an initial remote copy operation could occur after configuring a network to perform a subsequent remote copy operation. The Examiner then indicated that, should the claims be limited to the recited order, the claims should overcome the cited art. Accordingly, Applicant is amending the claims to require the recited order.

Applicant believes the case is now in condition for allowance.

If the Examiner has any questions or needs any additional information, Applicant invites the Examiner to contact the undersigned.

Respectfully submitted,

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